

# Executive Summary

## Introduction

In accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] 4321 et seq.), the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, (NFMA) (Sec. 6, 16 USC 1600.), and the Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701 et seq.), the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS), in cooperation under a “Service First” partnership, have prepared a Final San Juan National Forest and Proposed Tres Rios Field Office Land and Resource Management Plan (LRMP) and Final Environmental Impact Statement (FEIS) for the public lands in southwest Colorado within their respective jurisdictions.

The purpose, or goal, in developing this LRMP and FEIS is to ensure that National Forest Service (NFS) and BLM-administered lands, resources, and mineral estate are managed in accordance with applicable laws, as well as with the principles of multiple use and sustained yield. The public lands in this administrative area, although under the care and management of the USFS and the BLM, belong to the American people; thus, it is the overriding goal of these agencies to actively seek out, engage, and include the public, and all other interested parties, in this planning process—a process that could shape how visitors perceive, experience, use, and enjoy their public lands.

## The Planning Area

The planning area is located in southwest Colorado in Archuleta, Conejos, Dolores, Hinsdale, La Plata, Mineral, Montezuma, Montrose, Rio Grande, San Juan, and San Miguel Counties. The western border of the planning area is the Utah/Colorado state line. The southern border of the planning area is the New Mexico/Colorado state line. The eastern border is the Continental Divide. The northern border is the administrative boundaries of the Rio Grande, Gunnison, Grand Mesa, and Uncompahgre National Forests, and the BLM Uncompahgre and Gunnison Field Offices. This LRMP provides a framework to guide future management decisions on approximately 1,867,800 acres of the San Juan National Forest (SJNF), administered by the USFS, and approximately 500,000 surface acres and 300,000 acres of subsurface mineral estate administered by the BLM.

## The Existing Bureau of Land Management/U.S. Forest Service Land Management Plans

The SJNF is currently being managed under the following land use plans:

***The San Juan/San Miguel Resource Management Plan (BLM 1985):*** The current San Juan/San Miguel Resource Management Plan provides management direction for lands within the Tres Rios Field Office (TRFO), with the exception of those lands within the Canyons of the Ancients National Monument, which are managed under the Canyons of the Ancients Resource Management Plan (BLM 2010a).

***The San Juan National Forest Land and Resource Management Plan (USFS 1983):*** The current San Juan National Forest Land and Resource Management Plan was approved in 1983, with a major amendment in 1992 and 22 additional amendments. The LRMP and FEIS have been prepared using the provisions of the 1982 planning rule (36 Code of Federal Regulations [CFR] 219), as provided by the 2004 interpretative rule that clarified the transition provisions of the planning rule adopted on November 9, 2000. The current 1983 plan provides direction for the SJNF including its three Ranger Districts: Dolores, Columbine, and Pagosa.

SJNF lands are currently managed for oil and gas leasing under the analysis and decision for the 1983 San Juan National Forest Land and Resource Management Plan. Under that plan, 1,367,769 acres were open for leasing, mostly under standard lease terms. Approximately 95,500 acres are currently leased.

## **Management Alternative Goals and Objectives**

Four land management alternatives, and their associated environmental impacts and related issues, are described and analyzed in this document. Additionally, oil and gas leasing availability alternatives for NFS lands, including the No Lease Alternative, are described and analyzed. The alternatives reflect a reasonable range of potential management actions, based on the Analysis of the Management Situation; federal, state, local, and other governmental agency input and consultation; Native American tribal agency input and consultation; and public scoping. The alternatives in LRMP and FEIS seek to fully address the changing needs of the planning area, with the goal of selecting a management strategy that best achieves an effective combination of management actions, including one that:

- Addresses all of the BLM-administered lands and NFS lands and resources administered by the SJNF and TRFO (exclusive of Canyons of the Ancients National Monument);
- Employs a community-based planning approach that complies with all applicable local, state, federal, and Native American tribal laws, standards, policies, and implementation plans, as well as with all BLM and USFS policies, guidelines, and regulations;
- Recognizes all valid existing rights;
- Complies with FLPMA, the NFMA, NEPA, and all other applicable laws, rules, regulations, standards, policies, and guidelines;
- Coordinates and consults with Native American tribes in order to identify sites, areas, and/or objects important to their cultural and religious heritages;
- Identifies management actions and allowable uses anticipated to achieve the established goals and objectives, and to reach the desired outcomes;
- Provides comprehensive management direction by serving as a basis for land use decisions for all appropriate resources and resource uses administered by the SJNF and TRFO;
- Establishes goals and objectives (desired outcomes) for managing resources and resource values according to the principles of multiple use and sustained yield;
- Identifies land use planning decisions that will serve to guide future land management actions and subsequent site-specific implementation decisions;
- Considers current scientific information, research, new technologies, and the results of relevant resource assessments, monitoring, and coordination;
- Considers current and potential future uses of the public lands and resources administered by the SJNF and TRFO through the development of reasonable foreseeable future developments and activity scenarios based on historical, existing, and projected levels of use;
- Recognizes the nation's needs for domestic sources of minerals, food, timber, and fiber, and incorporates the requirements of the Energy Policy and Conservation Act Reauthorization, the Energy Policy Act, the National Fire Plan, the Healthy Forests Restoration Act, and the Healthy Forests Initiative;
- Retains flexibility so that the USFS and BLM can adapt to new and emerging issues and opportunities, and provide for adjustments to decisions over time, based on new information and monitoring; and
- Strives to be compatible with existing plans and policies of adjacent local, state, federal, and Native American tribal agencies, consistent with federal laws, regulations, and BLM and USFS policy.

## San Juan National Forest Oil and Gas Leasing

A separate planning-related action analyzed in this FEIS is the identification of SJNF lands that would be administratively available for oil and gas leasing, along with designation of lease stipulations to be applied to future leases (36 CFR 228.102(c) and (d)). BLM makes decisions regarding leasing availability within its plan decisions.

The oil and gas leasing availability decision consists of identifying those areas of NFS lands that would be:

- Open to leasing, subject to the terms and conditions of the standard oil and gas lease form (including an explanation of the typical standards and objectives to be enforced under the standard lease terms);
- Open to leasing, subject to lease stipulations, such as prohibiting surface use on areas larger than 40 acres, or such other standards that may be developed for stipulation use (with discussion as to why the constraints are necessary and justifiable); or
- Closed to leasing, with distinction made between those areas that are closed through exercise of management direction and those closed by law or regulation.

## Public Involvement

NEPA requires that federal agencies hold an open and early process for determining the scope of issues to be addressed in order to identify the significant issues that could be associated with the Proposed Action. The term “scope” is defined as the range of actions, alternatives, and impacts to be considered during NEPA analysis.

On September 23, 1999, a Notice of Intent to revise the USFS Land Management Plan for the San Juan National Forest was published in the Federal Register. On December 14, 2004, a second Notice of Intent was published, updating timelines and informing all interested parties that the BLM Resource Management Plan would be revised concurrently.

The SJNF and TRFO conducted a broad community-based public scoping process. This scoping process included the following opportunities for public participation:

- Study groups
- Public meetings
- Facilitated discussion groups
- Recreation interviews
- Aspen workshop
- Written comments

Cooperating agency status was offered to approximately 30 federal and state agencies, and cities and county governments. In addition to offering cooperating agency status, local city, town, and county governments were encouraged to attend study groups, attend public meetings, and provide comments. The two tribes with adjacency to the SJNF were invited to be cooperators: Southern Ute Indian Tribe and Ute Mountain Ute Tribe. The 26 tribes affiliated with the SJNF and TRFO were also informed and provided opportunities to participate in the revision process.

The main topic areas addressed in this FEIS were identified based on input from interagency consultation, other federal agencies, state and local government, tribes, cooperating agencies, internal review, the public, industry representatives, and special interest groups. The issues represent the challenges that exist with current management, BLM and USFS plans, and USFS oil and gas leasing availability decision. The SJNF and TRFO have documented each of the issues in a scoping

report and identified the following main planning issues that were analyzed and documented in the FEIS.

## Issues

Planning issues identify demands, concerns, and/or conflicts regarding the use or management of public lands and resources. These issues typically express potential impacts on land and on resource values. The main topic areas addressed in the LRMP/FEIS were identified based on input from interagency consultation, state government, cooperating agencies, internal review, and input from the public, industry representatives, and special interest groups. The public scoping process included invitations to interested parties to comment on, and contribute input with regard to, the planning process.

Four main issues drove the development of alternatives for the LRMP/FEIS. The alternatives reflect where people had notably different ideas about how to manage and/or use different areas administered by the TRFO and SJNF. These different ideas came from the community study groups, web-based interaction, scoping meetings, written comments, and other scoping activities. These issues include the following:

- ***Issue One - Balancing Management between the Ideas of Maintaining “Working Forests and Rangelands” and Retaining “Core Undeveloped Lands”***

When people discussed maintaining a “working forest,” the emphasis included respecting valid and existing rights to resources, retaining access and commodity production activities that are important to the economy of local communities, and continuing historical uses in areas where access and infrastructure investments have already been made.

The desires expressed by the people who discussed retaining “core undeveloped areas” included retaining areas that have not been developed in order to provide high-quality wildlife habitat and corridors, minimize ecosystem fragmentation, and support natural ecosystem functions.

- ***Issue 2: Providing Recreation and Travel Management within a Sustainable Ecological Framework***

Discussions at community meetings often included the need to find a balance between the way long-time residents, new arrivals, and visitors use the public lands. There was also much discussion on achieving a balance between areas where motorized recreation would be allowed and where non-motorized forms of travel and recreation would dominate. Opinions were divided on the appropriate mix of different types of recreation settings and opportunities that should be provided on public lands.

- ***Issue 3: Management of Special Area Designations and Unique Landscapes***

A number of unique and special areas were identified during the scoping process as meriting special attention. The importance of maintaining scenic views and recreation opportunities along important travel routes, such as along the San Juan Skyway, the Alpine Loop Backcountry Byway, the Continental Divide Trail, and the Colorado Trail, were common to all interests and area represented across the alternatives. Suitability of roadless areas of the SJNF for inclusion in the National Wilderness Preservation System and the suitability of rivers and streams on both SJNF and TRFO lands for inclusion in the National Wild and Scenic Rivers System are examined and analyzed in alternatives.

- **Issue 4: Management of Oil and Gas Leasing and Development**

People expressed concerns regarding both where and how development might occur. Community participants noted that LRMP decisions and oil and gas leasing availability decisions need to be coordinated so that the infrastructure needs (roads, well pads, and pipelines) for oil and gas development are compatible with desired conditions for specific areas of land. Comments mostly related to whether new road construction should occur in areas that are currently undeveloped.

The Draft Environmental Impact Statement (EIS) was published and made available to the public for comments in December 2007. During the 120-day comment period, there were over 18,000 letters received. Due, in part, to the comments and interest received on the Draft EIS, the Reasonably Foreseeable Development (RFD) scenario was revised to include development projections from the Gothic Shale Gas Play and a new air quality model was completed based on the updated development projections. The results were documented in a Supplement to the Draft EIS published August 26, 2011. An additional 90 days was provided for the public to comment on the new information and there were four open house meetings located in cities across the planning area. All comments and a response to comments are contained in the project record and summarized in Appendix S.

## Alternatives

**Alternative A** represents the continuation of current management direction under the existing BLM and USFS land management plans: the BLM's San Juan/San Miguel Resource Management Plan (1985) and the San Juan National Forest Land and Resource Management Plan (1983), both as amended. Alternative A meets the NEPA requirements that a No Action Alternative be considered (40 CFR 1502.14). "No Action" means that the alternative reflects the implementation of existing management goals, objectives, and management practices based on the existing land use plans. Alternative A also serves as the baseline for comparing and contrasting the impacts of the other alternatives. Alternative A is based on reasonably foreseeable actions, existing planning decisions and policies, and existing land use allocations and programs.

**Alternative B (Preferred Alternative)** focuses on balancing the goals of maintaining "working forest and rangelands" and of retaining "core, undeveloped lands" and providing and maintain the full diversity of uses and active recreation opportunities. Uses and activities that require roads, such as timber harvesting and oil and gas development, would be mostly focused in areas that already have roads, while the relatively undeveloped areas and areas that currently do not have roads would, for the most part, remain that way. Alternative B was developed to respond to the major issues while providing for common ground among conflicting opinions and multiple uses of public lands in a sustainable fashion. Alternative B also incorporates the goals of the USFS's Strategic Plan (36 CFR 219.12(f)(6)) and the Department of the Interior's Strategic Plan. The Responsible Officials, the Regional Forester for NFS lands and the State Director for BLM lands, have identified Alternative B as the Preferred Alternative in this FEIS.

**Alternative C** provides for a mix of multiple-use activities with a primary emphasis on maintaining the undeveloped character of the planning area. Production of goods from vegetation management would continue, but might be secondary to other non-commodity objectives. Under Alternative C, production of goods and services would be more constrained than that proposed under Alternatives A, B, and D. Alternative C identifies more resources and areas for special designation than the other alternatives and overall emphasizes the undeveloped areas and non-motorized recreational activities to a greater degree than any of the other alternatives.

**Alternative D** provides for a mix of multiple-use activities, with a primary emphasis on the “working forest and rangelands” in order to produce a higher level of commodity goods and services when compared to the other alternatives. Alternative D allocates the least amount of land for special designation. Under Alternative D production of goods and services would be greater than that proposed under Alternatives B and C.

## **Affected Environment and Environmental Consequences**

This FEIS is a programmatic document. It discusses environmental effects on a broad scale and does not predict what will happen when such broad-based standards and guidelines are implemented on individual, site-specific projects, nor does it convey the long-term environmental consequences of any site-specific project. The analysis includes potential effects of managing the lands within the SJNF and TRFO under certain standards, guidelines, and management area prescriptions and does not include site-specific project analysis. In addition to the land use planning analysis, the SJNF is analyzing the programmatic effects of NFS lands that would be administratively available for oil and gas leasing.

The affected environment has been identified as the NFS and BLM-administered public lands (excluding the Canyons of the Ancients National Monument) and the applicable resources within the SJNF and TRFO.

The direct, indirect, and cumulative effects of the Proposed Action and each of the alternatives have been disclosed in the programmatic analysis contained in Chapter 3 of the FEIS. The alternatives represent variations in management emphasis; for example, one alternative may emphasize outputs and opportunities for development, while another may emphasize protection of specific resources or conditions. The effects of the different alternatives would vary depending on the resource being affected.

The resources considered and analyzed were organized into the following categories.

### **Terrestrial Ecosystems**

Several ecosystem types have been identified and considered in the analysis: spruce-fir forests, aspen forests, cool-moist mixed conifer forests, warm-dry mixed conifer forests, ponderosa pine forests, pinyon-juniper woodlands, mountain shrublands, mountain grasslands, sagebrush shrublands, semi-desert shrublands, and alpine terrestrial ecosystems.

### **Terrestrial Wildlife**

Terrestrial wildlife has been divided into five main species/habitat types: amphibians and reptiles; migratory birds; mammals; threatened, endangered, candidate, and proposed species and habitat (as identified pursuant to the Endangered Species Act); and sensitive species.

### **Riparian Areas and Wetland Ecosystems**

The common definition used throughout the planning process for riparian areas is an area seasonally saturated or inundated at a frequency and duration sufficient to produce vegetation typically adapted for life in saturated soil conditions. It is also the transitional area between permanently saturated wetlands and upland areas often referred to as a riparian area. Riparian areas and wetland ecosystems are important because they store water, enhance water quality, provide habitat for wildlife and plants, and provide recreation and aesthetic values. Although they are small in extent (it is estimated they comprise less than 5% of the SJNF and TRFO land area), they represent a very important ecological component of the SJNF and TRFO.

**Aquatic Ecosystems and Fisheries**

The waters of the planning area support a variety of ecosystems. In southwest Colorado, these aquatic communities and ecosystems can be found at many different elevations and within many different habitats. In general, the most common aquatic biota within the planning area can be categorized as fishes, aquatic plants, aquatic insects, and the embryonic and larval stages of amphibian.

**Water Resources**

The importance of water protection was evident in the wording of the Organic Act of 1897, the legislation that founded the USFS, which stated that “no public forest reservation shall be established, except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows.” Public lands within the planning area, especially NFS lands, contain a large and important source of clean water for this nation. Watersheds throughout the planning area, as administered by both agencies, provide a multitude of benefits, including for aquatic and riparian habitat, municipal water supplies, flood reduction, low-flow augmentation, and recreation opportunities, as well as for providing a continuous supply of clean water for many additional uses.

**Livestock and Range Management**

Domestic livestock grazing has occurred on public lands within the planning area since the late 1870s. The livestock industry, comprising mostly ranching families, has been an integral part of community development, as well as overall lifestyle, in southwest Colorado. Public lands supply winter, spring, and summer grazing for dependent livestock producers and represent a significant portion of their total operations. Generally, term grazing permits are issued for 10 years to qualified producers, allowing grazing on designated areas, or allotments. Permit holders or grazing permittees pay an annual fee for the privilege of using public land forage. They are also required to abide by the terms and conditions of the grazing permit. These terms and conditions address livestock and land ownership, range improvement construction and maintenance, and required livestock management practices.

**Invasive Species**

Invasive species (noxious plants and aquatic nuisance species) can impact water quality, wildlife habitat, fisheries, forage production, and soil productivity. Invasive species can also displace native species. Noxious weeds and other invasive plant species establish as a result of ground disturbance and where a seed source is present. Weeds are introduced and spread in many ways, including by people, wildlife, vehicles, wind, water, and fire). The LRMP contains desired conditions, objectives, standards, and guidelines necessary to implement an integrated invasive species management program. Invasive species move across jurisdictional boundaries and property lines; therefore, implementation of the LRMP would involve close coordination and partnerships with local, state, tribal, and federal agencies, as well as with interested organizations and individuals.

**Timber and Other Forest Products**

Identification of lands suitable for timber production is one of the key elements of forest plans and delineates where timber production may occur on forest lands. Timber harvests may also occur on other lands. “Other lands” is a classification regarding lands where commercial timber production is not compatible with desired conditions and objectives, but that are physically capable and administratively available for purposes other than the production of wood fiber (including hazardous fuels reduction, ecosystem restoration, visuals, scenic vistas habitat improvement, or other purposes). Lands not suitable for timber harvest, due to various physical and administrative factors, (including slope, soil characteristics, productivity, and/or administrative withdrawals) are also identified within the LRMP.

Multiple scales are considered in timber management on NFS lands. The current conditions and future trends in relation to timber resources and harvesting activity on SJNF lands were evaluated at the forest and geographic area scale.

Special forest products are products or natural resources that are not the traditional timber and fiber products, like sawtimber or houselogs. Special forest products are permitted (or contracted) for removal from public lands (USFS or BLM) for commercial, personal, Native American tribal, educational, and/or scientific purposes (Forest Service Handbook 2409.18\_80-2002).

### **Insects and Disease**

Insects and diseases (which tend to be species-specific and often attack plants that have been weakened by other disturbances such as drought) affect tree growth, fire potential, nutrient cycling, and the composition and structure of vegetation communities (Schmid and Mata 1996). At endemic levels, native insects have little impact on forest structure. At epidemic levels, insects can cause tree mortality across whole landscapes. Diseases, which often weaken trees, making them more susceptible to bark beetle attack, generally increase gradually or remain at similar levels over time. Defoliators, such as western spruce budworm (*Choristoneura occidentalis*) can cause substantial damage when favorable moisture and stand conditions result in abundant host habitat.

### **Fire and Fuels Management**

Over the past 10 years, the national emphasis on fire and fuels management has increased as a result of large fires, droughts, increasing forest health concerns, and impacts on communities. New policies and laws incorporated in the LRMP alternatives would provide direction to manage wildfires more effectively, reduce hazardous fuels (especially in wildland urban interface areas), restore and maintain fire-dependent ecosystems, and promote collaboration with local communities in order to address wildfire-related issues.

### **Air Quality**

Under FLPMA and the Clean Air Act, the BLM and USFS cannot conduct or authorize any activity that does not conform to all applicable local, county, state, Native American tribal, and other federal air quality laws, statutes, regulations, standards, and implementation plans. Therefore, an air quality effects analysis based on atmospheric dispersion modeling was conducted to analyze potential air quality impacts.

In comparison to oil and gas drilling and production, other management actions on the SJNF considered throughout this analysis are expected to result in minor and/or short duration impacts to air quality. Potential smoke impacts associated with fuels treatments would be analyzed at the project level. Prescribed burning must comply with all applicable air quality standards and with burn permits issued by the State of Colorado. The modeled impacts in the analysis assess the maximum reasonable scenario for oil and gas development over a 15-year period as characterized in the RFD scenario.

### **Access and Travel Management**

Travel is associated with many of the activities that take place within the planning area. Both motorized and non-motorized access are important for providing outdoor recreation, managing wildfire, managing livestock and wildlife, developing natural resources (including timber and minerals), gathering fuel wood, accessing private in-holdings, maintaining electronic sites and utility corridors, and managing and monitoring the planning area.

The Access and Travel Management section of this document provides information about the SJNF and TRFO transportation systems. It includes a description of the management framework relevant to



each agency, a description of the current transportation system and corresponding issues and describes how aspects of the LRMP will aid in addressing the known issues. Finally, it provides an analysis of the direct, indirect, and cumulative impacts related to each of the alternatives as they relate to access and travel management and its interaction with several key public lands ongoing management activities.

### **Recreation**

Population growth, new recreation technology, and community interest have increased the focus on management of outdoor recreation settings and opportunities. Strategies incorporated into the various LRMP alternatives aim to maintain and enhance desirable recreation settings, integrate recreation with other resource objectives, provide for sustainable recreation experiences, and promote collaboration with local and regional partners in order to achieve recreation objectives.

### **Scenery and Visual Resource Management**

Private development and population continue to increase within the planning area, as do the demands on area resources. Concerns about retention of the area's outstanding scenic quality are at the forefront of public interest within the planning area. Visitors and residents alike place a high value on the protection of intact natural and cultural landscapes. The economic and lifestyle benefits of high-quality scenery are primary contributors to the wealth of the region.

### **Heritage and Cultural Resources**

The planning area is situated in the heart of an area with a long and rich prehistoric and historic record. Native American occupation of the area dates back approximately 10,000 years. The archaeological record contains some of the earliest agricultural societies in the region. The historic period brought Spanish and Euro-American explorers, trappers, miners, and settlers into the region. This long record of human occupation has left one of the highest densities of prehistoric and historic heritage and cultural resources to be found in the United States. These sites have national, international, and Native American tribal significance.

Heritage and cultural resources are non-renewable resources that include historic and prehistoric artifacts, structures, sites, districts, and archival materials important for their scientific, educational, economic, and social values. Throughout the region advanced archaeological and historical research is an ongoing endeavor. There is a great public interest in visitation to heritage and cultural resources. This visitation is an integral part of the region's economy. Twenty-six Native American tribes and pueblos claim cultural affiliation with heritage and cultural resources located within the planning area.

### **Paleontological Resources**

The term "paleontological resource" means any fossilized remains, traces, or imprints of organisms preserved in or on the earth's crust that are of paleontological interest and that provide information about the history of life on earth, except that the term does not include:

1. Any materials associated with an archaeological resource (as defined in section 3(1) of the Archaeological Resources Protection Act of 1979 (16 USC 470bb(1)); or
2. Any cultural item (as defined in Section 2 of the Native American Graves Protection and Repatriation Act [25 U.S.C. 3001]).

Fossils convey the story of history of life on earth, including the evolution and extinction of marine, freshwater, and terrestrial organisms.

Paleontological (fossil) resources are natural resources that occur on public lands; therefore, they are managed in accordance with the requirements of federal laws, primarily the Paleontological Resources Preservation Act of 2009 and the NEPA. These laws apply similarly to both BLM and NFS lands, although FLPMA is also applicable to BLM lands. Additional requirements for the collection, preservation, and protection of paleontological resources on applicable federal lands will be addressed in forthcoming federal regulations currently being promulgated.

### **Lands and Special Uses**

Special use permits, right-of-way grants, easements, and leases authorize the occupancy and use of BLM and NFS lands by government agencies, private individuals, or companies for a variety of activities, including roads, dams, pipelines, and other private or commercial uses that cannot be accommodated on private land. Annually, the SJNF and TRFO administer more than 1,000 non-recreational land use authorizations.

The land use permit program also authorizes the occupancy of public lands for pipelines, communication lines, power transmission lines, and communication sites. In order to minimize disturbance, agency policy is to collocate such uses where feasible. Utility corridors are formally designated in order to provide for such use. On SJNF lands, corridor management must comply with the objectives of the management areas crossed by these corridors, unless a specific exception is identified. TRFO lands are generally available for consideration of these uses at the project-planning level, except where restricted by area-specific direction or within exclusion areas. Where pipeline, electric distribution line, and/or communication system line use cannot be collocated, individual authorizations are issued.

### **Minerals and Energy: Fluid Minerals**

Oil and gas (natural gas and carbon dioxide) are defined as leasable minerals under federal law and regulation. The BLM has jurisdiction over management of federal oil and gas resources underlying both BLM and NFS lands, as well as those underlying non-federal surface (split estate) lands within the planning area. The BLM and USFS are joint agencies in this analysis under the 2006 Memorandum of Understanding Concerning Oil and Gas Leasing and Operations.

For BLM public lands and federal leasable minerals under non-federal surface lands, the BLM administers all oil and gas leasing and development activity. The BLM analyzes and makes decisions on leasing availability and discloses impacts in a resource management plan and EIS. Under the Federal Onshore Oil and Gas Leasing Reform Act of 1987 and implementing regulations at 36 CFR 228 E, the USFS must analyze and make decisions on oil and gas leasing for federal leasable minerals underlying NFS lands. Once the USFS determines what lands are available for leasing and the BLM has adopted the analysis, the BLM may offer the selected NFS lands for lease consistent with those decisions. The Record of Decision for this LRMP revision will document the leasing program adopted for the SJNF and TRFO for the next 10 to 15 years.

The oil and gas leasing analysis applies to a total of 2.37 million acres of federal mineral estate within a 3-million-acre analysis area, of which 1.65 million acres (outside wilderness and withdrawn areas) have the potential for the occurrence of oil and gas resources. The 0.91 million acres of private mineral estate within the planning area are not included in this oil and gas leasing analysis because the federal government has no leasing authority over privately held minerals regardless of surface ownership. However, surface use guidelines have been developed, other than No Surface Occupancy, that the BLM/USFS and, to the extent possible, would utilize if and when the holder of private mineral estate proposes to occupy federal surface. Surface use must be negotiated with the private mineral owner.

**Minerals and Energy: Solid Minerals**

Locatable minerals, mineral materials, and solid leasable minerals are all discussed in this section of the FEIS. Solid mineral resources within the SJNF and TRFO have played a significant role in the past and continue to be important today. Current resource estimates indicate valuable reserves within portions of the planning area. Solid minerals activity is most heavily concentrated on BLM lands in the Slick Rock area near Dove Creek and the associated Uravan Mineral Belt area; however, activity also occurs in the Silverton, Rico, and La Plata areas.

The BLM and USFS manage mineral-related activities consistent with multiple-use management principles. The exploration, development, and production of solid minerals resources are integrated with the use, conservation, and protection of other resources. The BLM also manages approximately 264,400 acres of federally owned mineral estate beneath privately held surface called “split estate” land.

**Minerals and Energy: Alternative Energy**

Public lands have long provided energy resources for both individual and commercial use. The National Energy Policy has laid the legal groundwork for alternative energy projects on public lands; however, little demand has surfaced in relation to the planning area. Nonetheless, this planning effort addresses alternative energy development in order to offer guidance for projects that are proposed on NFS and BLM-administered lands.

**Wilderness and Lands with Wilderness Characteristics**

The Wilderness Act of 1964 directs the USFS to analyze additional undeveloped and unroaded lands for proposed inclusion in the National Wilderness Preservation System. The USFS inventories potential wilderness by identifying roadless areas of approximately 5,000 acres or larger and/or roadless areas adjacent to existing wilderness areas. There are three tests applied to roadless areas before they are considered for wilderness area recommendations: capability, availability, and need.

The SJNF shares the management on portions of three wilderness areas (Weminuche, South San Juan, and Lizard Head) with two other forests (the Grand Mesa, Uncompahgre, and Gunnison National Forests and the Rio Grande National Forest). The SJNF also manages the Piedra Area, an area congressionally designated for protection of its wilderness character. The BLM has management responsibility for four BLM wilderness study areas (WSAs): the Dolores River Canyon, McKenna Peak, Menefee Mountain, and Weber Mountain. In total, the SJNF and TRFO manage 420,522 acres of congressionally designated wilderness areas, approximately 55,428 acres of WSAs, and the Piedra Area (approximately 62,550 acres).

Wilderness is part of the multiple-use management mission of both the BLM and the USFS. Wilderness provides opportunities for solitude, as well as for primitive and unconfined recreational experiences. Wilderness is also important to the maintenance of species diversity, the protection of threatened and endangered species, and the protection of watersheds, scientific research, and various social values.

**Wild and Scenic Rivers**

The Wild and Scenic Rivers Act of October 1, 1968, requires the Secretary of the Interior and the Secretary of Agriculture to undertake studies and investigations to determine which additional wild, scenic, and recreational rivers must be evaluated through land use planning. To be eligible, a river must be free-flowing and must possess one or more outstandingly remarkable river values. To be suitable, a decision is made that the identified values should be protected and that adding the river to the national system is the best method for protecting identified values.

With the passage of the Wild and Scenic Rivers Act in 1968, Congress directed the U.S. Department of Agriculture and the U.S. Department of the Interior to prepare studies of selected rivers on the national forests and public lands as potential additions to the National Wild and Scenic Rivers System. Suitability studies were prepared for the Los Pinos, Piedra, and Dolores Rivers. Wild and Scenic River study reports and EISs were completed for these three rivers and submitted to Congress with recommendations for designation for most river segments. All of these studies were completed in partnership with the State of Colorado Department of Natural Resources.

### **Scenic, Historic, and Backcountry Byways**

The National Scenic Byways Program is under the administration of the U.S. Department of Transportation, Federal Highway Administration. Based on one or more archaeological, cultural, historic, natural, recreational, and/or intrinsic scenic qualities, the U.S. Secretary of Transportation recognizes certain roads as America's byways, All-American Roads, or national scenic byways.

The Colorado Scenic and Historic Byways Commission is a statewide partnership intended to provide recreational, educational, and economic benefits to Coloradoans and state visitors. This system of outstanding touring routes in Colorado affords the traveler interpretation and identification of key points of interest while, at the same time, providing for the protection of significant resources.

Scenic and historic byways are designated by the Colorado Scenic and Historic Byways Commission based on their exceptional scenic, historic, cultural, recreational, and natural features.

Backcountry byways are vehicle routes that traverse scenic corridors utilizing secondary or backcountry road systems.

The planning area contains a majority of the 232-mile-long San Juan Skyway, the 65-mile Alpine Loop National Backcountry Byway, and 114 miles of the Trail of the Ancients Scenic Byway.

### **National Recreation and Scenic Trails and National Historic Trails**

The Calico and Highline National Recreation Trails cross the planning area, typically within areas that are managed for semi-primitive recreation opportunities. Neither of these trails are at or near its use capacity at this time.

Acting upon a vision of a 3,100-mile primitive and challenging backcountry trail that would travel from Canada to Mexico along the backbone of America, Congress designated the Continental Divide National Scenic Trail (CDNST) in 1978. A long section of the CDNST crosses the planning area, traversing the spectacular and remote high country of the San Juan Mountains within the Weminuche and South San Juan wilderness areas. From the Weminuche wilderness area, the CDNST travels north onto BLM-administered lands near Silverton, Colorado. Most of this section of the CDNST meanders between the SJNF and the Rio Grande National Forest, necessitating shared management responsibility for many miles of this significant trail.

Within the planning area, most of the Colorado Trail travels within remote backcountry, wilderness areas, and other lightly traveled areas. Issues resulting from conflicts with motor vehicle use are few. The southernmost section of the Colorado Trail near Durango is heavily used by the community for day-use hiking and biking. Some of the Colorado Trail follows the same route as the CDNST. A portion of the Colorado Trail within the planning area follows the Highline Loop National Recreation Trail.

In 2002, Congress formally designated the Old Spanish Trail as the nation's fifteenth National Historic Trail. The "Main Branch" trail route is now under Highway 184, directly in front of the Dolores Public Lands Office. Between 1829 and 1848, the Old Spanish Trail was used by immigrants and traders on

yearly pack-train expeditions between Santa Fe and the Pueblo of Los Angeles (San Gabriel Mission). The trail was used by trappers, travelers, and military expeditions.

### **Research Natural Areas**

Research natural areas (RNAs) are NFS lands that are part of a network of ecological reserves designated in perpetuity for non-manipulative research, education, monitoring, and the preservation of ecological diversity. They are relatively unaltered by past management activities and managed to allow natural ecological processes to proceed with minimum human intervention. They also serve as reference areas for the study of ecological processes, disturbances, and ecological changes. Most management activities are prohibited in RNAs unless they are needed to achieve desired conditions or maintain the features for which the RNA was established. The 10 RNAs (Naraguinnep, Williams Creek, Electra, Grizzly Peak, Hermosa, Hidden Mesas, Martinez Creek, Navajo River, Piedra, and Porphyry Gulch) on the SJNF are protected areas and as such are key components of the sustainable ecosystems strategy.

### **Areas of Critical Environmental Concern**

Areas of Critical Environmental Concern (ACECs) are BLM lands where special management attention is required to prevent irreparable damage to important historic, cultural, or scenic values, as well as fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards (BLM Manual 1613). FLMPA mandates the BLM to give priority to the nomination and designation of ACECs through the development and revision of resource management plans.

The San Juan/San Miguel Resource Management Plan currently contains one ACEC, Mud Springs/Remnant Anasazi Culture. Twenty-three additional areas were nominated for ACEC consideration through the LRMP revision process, primarily selected from potential conservation areas that were developed by the Colorado Natural Heritage Program. A potential conservation area, which often includes both federal and non-federal lands, represents the land needed to support the long-term survival of the rare species or plant communities within it. Twenty-one of the twenty-three sites were further identified as potential ACECs because they met both the relevance and importance criteria described in the BLM manual. After further analysis, two of the areas were recommended for ACEC designation through this planning process: Gypsum Valley and Anasazi Cultural Area (formerly named Mud Springs/Remnant Anasazi Culture).

### **Economics**

Economic consequences of managing the SJNF and TRFO stretch across Colorado, New Mexico, Arizona, and Utah. A five-county area in Colorado that includes Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties is recognized as the most affected region by the management of these public lands and serves as the focus of the economic analysis. San Juan County, New Mexico, is a significant provider of support activities to the oil and gas industry in southwest Colorado and is therefore discussed in the context of minerals management on the SJNF and TRFO. Comprehensive economic data are generally unavailable at the community level; however, interpretations of larger-scale analyses can sometimes be made and offer insights into particular communities.

### **Demographics**

This section first presents a snapshot of demographic conditions and trends in the five counties most substantially containing the planning area: Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties. The section concludes with discussion of the impacts to population potentially occurring under the range of alternatives for the LRMP.

## Summary of Changes Made Since the Draft Land and Resource Management Plan and Environmental Impact Statement

This LRMP and FEIS contain changes that have occurred since the publication of the Draft LRMP/EIS resulting from public comments, policy changes, and additional studies or other information. The key changes are described below. Comment responses in Appendix S provide additional details regarding changes made to the LRMP/FEIS. With the exception of the Supplement to the Draft EIS that was published in 2011 to address new oil and gas development projection and the need for a new air quality model (see Section 2.1.2), the BLM and USFS determined that NEPA supplementation, as described at 40 CFR 1502.9, was not necessary based on the changes described below or any other changes that have occurred between Draft and Final EIS. None of these changes were found to present significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

**Ecosystem Management:** A section titled “Ecological Framework and the Conservation of Species” has been added to the LRMP (Section 2.1) that describes in detail the strategies, concepts, and components that are used in this LRMP to establish an ecological framework for the conservation and management of ecosystems, habitats, and species. This section also addressed in detail USFS requirements to plan for diversity and viability, and includes an explanation about natural disturbances and the agencies’ limited ability to manage the effects of natural disturbances

**Climate Change:** New LRMP components addressing climate change have been added to relevant sections of the LRMP. These new components focus on managing ecosystems to be resilient and resistant to changes and natural disturbances. Appendix G summarizes the SJNF and TRFO climate change strategy and provides a compiled list of LRMP components that address climate change.

**Wildlife:** The bluebird was replaced by the hairy woodpecker on the Management Indicator Species list for the SJNF based on comments received by the public and further internal review. LRMP components for wildlife have been updated to reflect current species status, and components specific to threatened and endangered species have generally been revised to emphasize guidance from recovery plans for those species. Additional mitigation has been included in the LRMP for reducing conflicts between bighorn sheep and domestic sheep, and a Draft LRMP guideline requiring the agencies to maintain a minimum level of aquatic habitat by identifying the minimum flow rates required to support that habitat has been changed to a standard in the Final LRMP, and four options were provided for meeting the standard.

**Water:** Groundwater and municipal watershed protections have been added, especially to mitigate potential impacts related to oil and shale gas development.

**Rangeland Management and Invasive Species:** LRMP components have been developed to mitigate potential impacts to bighorn sheep, and to improve and maintain sagebrush ecosystems. Clarified that allowable use of forage and browse will be determined during subsequent project-level analysis. LRMP components have been developed to address cheat grass, and the Final LRMP provides improved guidance for management of invasive species.

**Air Quality:** Standards and guidelines were revised to mitigate impacts from oil and gas development activities (these were published for public review and comment in the Supplement to the Draft EIS; additional changes were made based on public comments).

**Travel Management:** The LRMP/FEIS now identifies the BLM off-highway vehicle designations of closed, limited, and open on all TRFO lands. The Draft LRMP/EIS had applied USFS terminology of

“suitable” and “unsuitable” to BLM lands for both over-ground and oversnow motorized travel decisions. Guidelines addressing route density were revised, including specific guidelines to mitigate potential impacts to watersheds and wildlife; route density guidance is no longer tied to management areas. Definitions for “suitable” and “suitable opportunity” for motorized travel on NFS lands were improved for clarity. Suitability areas were slightly adjusted based on public comment and improved mapping to correspond travel mode with appropriate land designations such as recommended wilderness. For oversnow travel, the suitable area for motorized use near Andrews Lake was extended to go east to the wilderness boundary and south along U.S. Highway 550 to follow terrain, improve manageability, provide a better location for snowmobiles to cross the highway, and provide more suitable snowmobile terrain. In the Corkscrew Gulch/U.S. Basin area, the suitable area was extended south to the Corkscrew Gulch road, providing a link from the suitable terrain east of U.S. Highway 550 to the suitable terrain west of the highway. This and other minor oversnow corridors were created to provide improved access to snowmobile “play areas.”

**Visual Resources:** A visual resource inventory was completed for the TRFO to provide an improved baseline for impact analysis and decision-making.

**Minerals and Energy:** Leasing stipulations were revised based on public comments. New stipulations were developed to mitigate potential impacts to ground water, municipal watershed, wildlife, the Old Spanish Trail, cultural viewsheds, and state wildlife areas. All stipulations were revised to state the “justification” for each stipulation and to specify the conditions under which waivers, exceptions and modifications would be considered. These stipulations are supported by the analysis in the FEIS. The LRMP includes a description of a future orderly leasing and development approach that would apply to SJNF lands Paradox Basin. Programmatic EISs for various alternative energy resources have been finalized since the Draft LRMP/EIS was published and are incorporated by reference.

**Management Areas:** Management area (MA) designations have been removed from BLM lands to be consistent with BLM planning guidance. While MAs no longer apply to the TRFO, the related resource-specific land allocations (i.e., lands available for grazing, available for lease, off-highway vehicle designations, etc.) are reflective of the MA preferences that were expressed by the public for each alternative. The land allocations and uses in the LRMP are consistent with the Draft and Supplement. Where On NFS lands, where MA 5 overlapped with Colorado Roadless Areas, the MA has been changed to the adjacent MA (often MA 3). The LRMP acknowledges a more comprehensive and correct listing of past management and uses in the Pagosa District that resulted in some areas being changed from MA 3 to MA 5 and from MA 5 to MA 3. MA 8 was added to areas surrounding the Wolf Creek ski area expansion.

**Lands with Wilderness Characteristics:** The inventory of lands with wilderness characteristics on the TRFO was updated between the Draft LRMP/EIS and Proposed LRMP/FEIS. The results are included in the LRMP, along with guidance for managing certain TRFO lands for their wilderness characteristics under each alternative. The vast majority of these lands were identified for similar protective management in the Draft LRMP; thus, management as proposed and analyzed in this LRMP and FEIS does not differ significantly from what was disclosed in the Draft documents, and NEPA supplementation was not found to be necessary by the BLM. A detailed explanation of the wilderness characteristics inventory is included in Appendix O.

**Recommended Wilderness and Wilderness Study Areas:** Boundaries have been adjusted for the recommended Weminuche Adjacent and Turkey Creek areas to better follow topography and have manageable boundaries, and the Colorado Roadless Rule has been incorporated by reference. The LRMP provides direction for WSAs when they are released from WSA status by Congress.

**Wild and Scenic Rivers:** River corridor boundaries were revised to remove any roads within scenic and wild segments. On the SJNF, thirteen miles of the East Fork of the San Juan River were added as a suitable recommended recreation segment, and approximately six miles of the recreation segment of the West Fork of the San Juan River were removed from suitable WSR recommendation. On the TRFO Summit Canyon was removed from suitable recommendation because its one outstanding and remarkable value was shown not to exist in the canyon, and the flannelmouth sucker and Bluehead sucker were listed as outstanding and remarkable values for the Dolores River in response to comments. All of these changes are described in Appendix D.

**Research Natural Areas:** Some Research Natural Area boundaries were adjusted for better manageability and to address resource conflicts. Adjustments were made for the following Research Natural Areas: Martinez Creek, Porphyry Gulch, Piedra, Hidden Mesa, Grizzly Peak.

**Other special areas and designations:** Management direction for Chimney Rock National Monument is consistent with and references the presidential proclamation for the area. Boundaries have been adjusted for both the O'Neal Hill and Chatanooga Special Botanical Areas to remove roads, powerlines and other conflicting management. Specific management direction was added for Smoothing Iron and Boggy Draw Old Growth Recruitment Areas, and they are now within MA 3 (rather than MA 5). LRMP components were revised for Silverton based on external comments; most notably, guidance was added for improving land ownership management.

**General LRMP Direction and Guidance:** LRMP components have been revised to some degree within most sections of the LRMP. Revisions were based on public comments and internal review.

**Administrative Corrections:** Ownership layers for surface and mineral estates were corrected for both agencies, as well as updating the acres of currently leased lands. These corrections increased the total federal mineral estate acreage and changed some acreage totals throughout the documents.